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arrangement or phyllotaxis that the Fibonacci Series comes up. Among the earliest and most important of these are the memoirs of Braun (based on researches of Schimper and himself),<sup>1</sup> and L. et A. Bravais.<sup>3</sup> Of later papers there are those by Ellis,<sup>3</sup> Dickson,<sup>4</sup> Wright,<sup>5</sup> Airy,<sup>6</sup> Günther,<sup>7</sup> and Ludwig.<sup>8</sup> Much that was fanciful and mysterious was swept away by the publication of P. G. Tait's note "On Phyllotaxis."<sup>9</sup> Of recent books on the subject the most notable are those by Church,<sup>10</sup> Cook,<sup>11</sup> and Thompson.<sup>12</sup> The two former are beautifully illustrated. The latter reproduces Tait's discussion in an appreciative manner.

## NOTES AND NEWS.

EDITED BY D. A. ROTHROCK, Indiana University, Bloomington, Ind.

Mr. E. S. LANE, fellow at the University of Chicago, has been appointed instructor in mathematics at Rice Institute.

Mr. W. G. SIMON, fellow at the University of Chicago, has been appointed instructor in mathematics at Western Reserve University.

Dr. OLIVE C. HAZLETT, instructor at Bryn Mawr College, has been appointed to an assistant professorship of mathematics at Mount Holyoke College.

<sup>1</sup> A. Braun, "Vergleichende Untersuchung über die Ordnung der Schuppen an den Tannenzapfen als Einleitung zur Untersuchung der Blätterstellung überhaupt," *Nova Acta Acad. Caes. Leopoldina*, Vol. 15, 1830, pp. 199-401.

<sup>2</sup> L. et A. Bravais, (1) "Sur la disposition des feuilles curvisériées," *Ann. des sc. nat.*, 2e série Vol. 7, 1837, pp. 42-110; (2) *Mémoire sur la disposition géométrique des feuilles et des inflorescences*, Paris, 1838.

<sup>3</sup> R. L. Ellis, *Mathematical and Other Writings*, Cambridge, 1863; "On the Theory of Vegetable Spirals," pp. 358-372.

<sup>4</sup> A. Dickson, "On some abnormal cases of pinus pinaster," *Transactions of the Royal Society of Edinburgh*, Vol. 26, 1871, pp. 505-520.

<sup>5</sup> C. Wright, "The uses and origin of the arrangements of leaves in plants" (read 1871), *Memoirs of the American Academy*, Vol. 9, part 2, Cambridge, Mass., p. 384f.

<sup>6</sup> H. Airy, "On Leaf Arrangement," *Proceedings of the Royal Society of London*, Vol. 21, 1873, pp. 176-179.

<sup>7</sup> S. Günther, "Das mathematische Grundgesetz im Bau des Pflanzenkörpers," *Kosmos*, II. Jahrgang, Band 4, 1879, pp. 270-284.

<sup>8</sup> F. Ludwig, "Einige wichtige Abschnitte aus der mathematischen Botanik," *Zeitschrift für mathematischen und naturwiss. Unterricht*, Band 14, 1883, p. 161f.

<sup>9</sup> P. G. Tait, *Proc. Royal Society Edinburgh*, Vol. 7, 1872, pp. 391-4.

<sup>10</sup> A. H. Church, *On the Relation of Phyllotaxis to Mechanical Laws*, London, Williams and Norgate, 1904. On page 5 Church writes: "The properties of the Schimper-Braun series 1, 2, 3, 5, 8, 13, . . . , had long been recognized by mathematicians (Gerhardt, Lamé). . . ." In *Botanisches Centralblatt*, Band 68, 1896, F. Ludwig writes (on p. 7) that the numbers of this series "werden vielfach von Botanikern als Braun'sche, von Mathematikern als Gerhardt'sche oder Lamé'sche Reihe bezeichnet." I have not been able to verify that any mathematician used the term Gerhardt series in this connection, or that anyone by the name of Gerhardt wrote about the Fibonacci series. From what has been indicated above it seems certain that "Gerhardt'sche" should be "Girard'sche."

<sup>11</sup> T. A. Cook, *The Curves of Life*, London, Constable, 1914.

<sup>12</sup> D'A. W. Thompson, *On Growth and Form*, Cambridge: at the University Press, 1917.

Dr. E. A. ENGLER, professor of mathematics at Washington University from 1881 to 1901, president of Worcester Polytechnic Institute from 1901 to 1911, and since 1911 secretary-treasurer of Washington University, died on January 16, at the age of sixty-one years.

Assistant Professor WARREN WEAVER, of Throop College of Technology, is on leave of absence, serving in the Science and Research Division of the Signal Corps at Washington, D. C.

Professor F. R. MOULTON, of the University of Chicago, has been commissioned a major in the Ordnance Department and assigned to service at Washington where he will have important duties in connection with the mathematical phases of testing field pieces.

Professor J. N. VAN DER VRIES, of the University of Kansas, who has been connected with the war work of the Chamber of Commerce of the U. S. at Washington, has been transferred to Chicago to take charge of the newly established Chicago branch of the Chamber, having control of the work in the central west.

Mr. ALFRED DAVIS, a charter member of the Association, and for a number of years teacher of mathematics at the Francis W. Parker School, Chicago, has accepted the professorship and head of the department of mathematics at William and Mary College, Williamsburg, Virginia.

Professor FLORIAN CAJORI has resigned his position of professor of mathematics at Colorado College to accept the chair of professor of history of mathematics in the University of California. Professor Cajori has been connected with Colorado College for twenty-nine years.

Professor C. A. WALDO, who retired last June from the Thayer professorship of mathematics and applied mechanics at Washington University, St. Louis, Mo., is now living at 401 West 118th Street, New York City. Professor Waldo's educational career extends over a period of forty years, beginning as an instructor in mathematics at Wesleyan University in 1877. He occupied in succession the professorship and head of the department of mathematics at Rose Polytechnic Institute, DePauw, Purdue and Washington Universities. He was retired from Washington University as professor emeritus.

The Association of Teachers of Secondary Mathematics of North Carolina met at Greenville, on March 8 and 9. Professor C. B. UPTON of Teachers College, Columbia University, was the principal speaker; other addresses were made by Mr. W. W. RANKIN, and Mr. J. W. LASLEY, of the University of North Carolina. The sessions of the conference were primarily devoted to discussions of the humanizing of mathematics, the addresses of Professor UPTON being upon the subjects: "Mathematics as an aid to the interpretation of life about us," "Recent tendencies to visualize the beginnings of geometry," and "The modern methods of teaching arithmetic."

*University of Kansas.* Summer session, June 3 to July 12.—By Professor C. H. ASHTON: College algebra; Mechanics.—By Professor E. B. STOFFER:

Calculus; Modern geometry.—By Professor J. J. WHEELER: Solid geometry; Trigonometry; Analytical geometry.

July 15 to Aug. 9.—By Professor U. G. MITCHELL: History of elementary mathematics; Teachers' course.

*Cornell University.* Summer session, July 8 to August 16.—By Professor W. B. CARVER: Topics related to geometry, five hours.—By Professor W. A. HURWITZ: Topics related to algebra, five hours. The preceding two courses are primarily for teachers.—By Professor F. W. OWENS: Projective geometry, three hours. Courses in solid geometry, algebra, trigonometry, analytic geometry and elementary calculus will be given.

The tenth regular meeting of the American Mathematical Society and the forty-first meeting of the Chicago Section were held at the University of Chicago on Friday and Saturday, April 12 and 13. The sessions of Friday morning and Saturday morning were devoted to the presentation of original papers, the number of papers read being nineteen. The session of Friday afternoon was devoted to a symposium on the theory of summable series. The attendance at the meetings was nearly normal in number; but several who usually are present were absent owing to duties connected with the prosecution of the war. At the dinner on Friday evening, where some forty-five members enjoyed the usual social intercourse, Professor L. E. DICKSON, President of the Society, presided, and addresses were made by Professor VAN VLECK on his experience in connection with the war registration board at Madison, by Professor D. R. CURTISS on the effect of the war on scientific productiveness, by Professor S. LEFSCHETZ, who came five hundred miles to the meeting, by Professor E. R. HEDRICK on correspondence with prominent mathematicians in France, England, and Germany, and by Professor H. E. SLAUGHT on the work in which Major F. R. MOULTON is engaged in the ordnance department at Washington.

In an article entitled "Medicine and mathematics in the sixteenth century" which appeared in the *Annals of Medical History*, summer number, 1917, Professor D. E. SMITH considers the reasons for the close relations of these two branches then existing and lists a large number of men who were distinguished in both, among whom may be cited LEONARDO DA VINCI, COPERNICUS, CARDAN, GEMMA FRISIUS, and ROBERT RECORDE.

The Committee on Policy of the American Association for the Advancement of Science has changed the place of the next meeting from Boston to Baltimore, one controlling reason being the proximity of Baltimore to Washington, where many prominent scientific men from all parts of the country are now engaged in war work. The dates will be December 27 to 31, 1918, and the program will be restricted very largely to definite working problems related to the war.